

Remarks

Claims 1-3, 6, and 10-22 were previously pending in the subject application. The applicants acknowledge that the subject matter of claims 2, 3, 6, and 13-22 is withdrawn as being directed to non-elected inventions. By this Amendment, the applicants have amended claim 1. Support for the amendment presented herein can be found throughout the original specification including, for example, original claims 8 and 9 and paragraphs 34 and 36. Accordingly, claims 1-3, 6, and 10-22 are now before the Examiner for further consideration.

Claims 1 and 10 have been rejected under 35 U.S.C. §102(b) as being anticipated by Ma *et al.* (CN 1399876). The applicants respectfully traverse this rejection because the Ma *et al.* reference fails to teach or suggest each and every element of the invention as currently presented in the claims.

Claim 1 has been amended to recite termite-controlling compositions comprising methoxyfenozide as the molt-accelerating compound and noviflumuron as the chitin synthesis inhibitor. Ma *et al.* is cited as teaching tebufenozole with 10% diflubenzaron. The Ma *et al.* reference does not teach or suggest the combination of methoxyfenozide and noviflumuron. In fact, Ma *et al.* does not even mention noviflumuron.

In order to anticipate, a single prior art reference must disclose within its four corners, each and every element of the claimed invention. In *Lindemann v. American Hoist and Derrick Co.*, 221 USPQ 481 (Fed. Cir. 1984), the court stated:

Anticipation requires the presence in a single prior art reference, disclosure of each and every element of the claimed invention, arranged as in the claim. *Connell v. Sears Roebuck and Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983); *SSIH Equip. S.A. v. USITC*, 718 F.2d 365, 216 USPQ 678 (Fed. Cir. 1983). In deciding the issue of anticipation, the [examiner] must identify the elements of the claims, determine their meaning in light of the specification and prosecution history, and identify corresponding elements disclosed in the allegedly anticipating reference. *SSIH, supra*; *Kalman [v. Kimberly-Clarke]*, 713 F.2d 760, 218 USPQ 781 (Fed. Cir. 1983)] (emphasis added). 221 USPQ at 485.

In *Dewey v. Almy Chem. Co. v. Mimex Co.*, Judge Learned Hand wrote:

No doctrine of the patent law is better established than that a prior patent . . . to be an anticipation must bear within its four corners adequate directions for the practice [of the subsequent invention] . . . if the earlier disclosure offers no more than a starting point . . . if it does not inform the art without more how to practice the new invention,

it has not correspondingly enriched the store of common knowledge, and it is not an anticipation. 124 F.2d 986, 990; 52 USPQ 138 (2nd Cir. 1942).

As noted above, *Ma et al.* fails to disclose noviflumuron to be combined with methoxyfenozide in accordance with the claimed compositions. Thus, under the applicable statutory and case law, the *Ma et al.* reference does not anticipate the current applicants' claims. Therefore, the applicants respectfully request reconsideration and withdrawal of this rejection under 35 USC §102(b).

Claims 1 and 10-12 have been rejected under 35 U.S.C. §103(a) as being unpatentable over *Karr et al.* (WO 98/344481) in view of *Poppen et al.* (U.S. Patent No. 6,123,756) and *Su* (U.S. Patent No. 6,857,223). The applicants respectfully traverse this rejection because the cited references, either taken alone or in combination, do not teach or suggest the claimed compositions.

While the applicants appreciate that references cannot be attacked only individually in an obviousness rejection, several elements of the invention as currently claimed are not disclosed anywhere in the cited references. The current claims recite termite controlling compositions in which methoxyfenozide, a molt-accelerating ecdysteroid analog is combined with noviflumuron, a chitin synthesis inhibitor. The applicants do not find any teaching or suggestion in either *Karr et al.*, *Poppen et al.*, or *Su* regarding compositions in which a chitin synthesis inhibitor is combined with an ecdysteroid agonist, let alone the combination of methoxyfenozide with noviflumuron.

*Karr et al.* only teach the use of juvenile hormone mimics, such as methoprene and pyriproxyfen, in combination with a chitin synthesis inhibitor. According to the Office Action at page 2, "KARR et al provides the essence of the instant invention, but not every compound." The applicants respectfully disagree.

Contrary to the Office Action's assessment, juvenile hormone mimics are not the same as ecdysteroid analogs. Ecdysteroids and ecdysteroid analogs are generally considered hormones that cause events involved in molting. In contrast, juvenile hormones are normally considered status-quo hormones that maintain an insect in its current form. Not only is this well-known to the skilled artisan, but it is also taught in the subject application at paragraphs 9 and 10, pertinent portions as follows:

The presence of juvenile hormone (JH), a sesquiterpenoid, ensures that insects retain the juvenile form (i.e. to molt from a younger larval stage to the next larval stage). As insects progressively molt, JH concentration decreases and may even be totally absent at the last larval instar.

The effects of JH, its analogs (JHAs), and mimics (JHMs) on termites are well studied (Su and Scheffrahn 1990). JHAs and JHMs (referred to as juvenoids) are known to produce excessive soldier termites whose function is for colony defense. Because the soldier caste has to be fed by workers, termite colonies contain optimal proportions of the soldier caste (Wilson 1971, Haverty 1977). It has been proposed that juvenoids, which induce excessive soldier formation, may be used to disrupt the integrity of a termite society, leading to the destruction of the entire colony (Haverty 1977, Hrdy and Krecek 1972, Hrdy 1973). However, further studies revealed that juvenoids are effective only against termite species with a lower natural soldier proportion, such as *Reticulitermes* species) (Su and Scheffrahn 1990). *Coptotermes* species, which have a relatively high proportion of soldiers, include an unusually large proportion of economically important termites in the world (Su 2003).

Because juvenile hormone mimics are not the same as ecdysteroid analogs, it cannot be said that Karr *et al.* provides the essence of the instant invention. As noted above, Karr *et al.* only teaches the combination of chitin synthesis inhibitors and juvenile hormone mimics. There is no description regarding the combination of ecdysteroid analogs and chitin synthesis inhibitors. Karr *et al.* never contemplate combining methoxyfenozide with noviflumuron. Thus, the applicants respectfully submit that Karr *et al.* fails to teach or suggest compositions in which the ecdysteroid analog methoxyfenozide is combined with the chitin synthesis inhibitor noviflumuron, as recited in the current claims.

Poppen *et al.* merely augments Karr *et al.*'s deficiencies above by failing to teach the same claim elements. Poppen *et al.* does not teach or suggest combining an ecdysteroid analog with a chitin synthesis inhibitor. Rather, all that is taught by Poppen *et al.* is the combination of juvenile hormone with ecdysone agonist for compositions useful in protecting lumber, not insect bait, against dry-wood-destroying insects, such as the house longhorn (*Hyloterpes bajulus*), woodworm (*Anobium punctatum*), and bark beetle (*Lyctus brunneus*). Subterranean termites are different from drywood termites, are not dry-wood-destroying insects, and are not mentioned or suggested in those patents.

The Office Action states at page 3 that "Given the termiticides known, shown by all three references, and KARR's teaching of the combination as superior, one would be motivated to utilize

the new toxicants of POPPEN and apply them as taught by SU, with expectation of synergistic results.” The applicants respectfully disagree. Contrary to the Office Action’s assessment, Poppen *et al.* does not provide the instant compounds. Poppen *et al.* does not describe either methoxyfenozide or noviflumuron. Moreover, while Poppen *et al.* describe the combination of juvenile hormone and ecdysone agonist to be effective against dry-wood-destroying insects, Poppen *et al.* fails to address the shortcomings of Karr *et al.* in that it does not disclose or suggest combining a chitin synthesis inhibitor with an ecdysteroid analog, let alone methoxyfenozide and noviflumuron, as recited in the current claims.

Su merely describes impregnating termite bait with a toxicant. As cited by the Office Action, “SU provides termite baits (col. 6, lines 9, 10) in hermetically sealed bait, in durable housings (col. 6, lines 15-31; 42+). The applicants respectfully submit that Su does not teach or suggest applying the combination of a molt-accelerating ecdysteroid analog and chitin synthesis inhibitor to termite baits. Nor is there any teaching or suggestion by Su to compositions in which methoxyfenozide and noviflumuron are combined. Accordingly, Su fails to cure the shortcomings of either Karr *et al.* or Poppen *et al.*, as described above.

All the claim limitations must be taught or suggested by the prior art in order to establish the *prima facie* obviousness of a claimed invention. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (CCPA 1974). As discussed above, there is no teaching or suggestion in any of the cited references to compositions in which a molt-accelerating ecdysteroid analog is combined with a chitin synthesis inhibitor. Further, Karr *et al.*, Poppen *et al.*, and Su all fail to disclose a composition combining methoxyfenozide with noviflumuron. Therefore, in the absence of these important features, the cited references, even combined, would not produce the claimed invention and a valid *prima facie* case for obviousness of the claimed invention has not been established by the Patent Office.

Even assuming, for the sake of argument, that *prima facie* obviousness has been established, the mere fact that the purported prior art could have been modified or applied in some manner to yield an applicant’s invention does not make the modification or application obvious unless “there was an apparent reason to combine the known elements in the fashion claimed” by the applicant. *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1721 (2007). Furthermore, an assertion of obviousness without the required suggestion or expectation of success in the prior art is tantamount to using applicant’s disclosure to reconstruct the prior art to arrive at the subject invention.

Hindsight reconstruction of the prior art cannot support a §103 rejection, as was specifically recognized by the CCPA in *In re Sponnoble*, 56CCPA 823, 160 USPQ 237, 243 (1969).

In the case of the presently claimed invention, it is unclear what motivation one of ordinary skill in the art would have had to apply the cited teachings and alter them to combine a molt-accelerating ecdysteroid analog, such as methoxyfenozide, with a chitin synthesis inhibitor, such as noviflumuron. As noted above, none of the cited references disclose methoxyfenozide. Therefore, any suggestion to create the claimed composition including methoxyfenozide and noviflumuron could only be arrived at through hindsight reconstruction which is improper. Accordingly, the applicants respectfully request reconsideration and withdrawal of the obviousness rejection under 35 U.S.C. §103 based on Karr *et al.*, Poppen *et al.*, and Su.

Claims 1, 10 and 11 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Ma *et al.* in view of Su *et al.* '95 (*J. Economic Entomology*, 1995). The applicants respectfully traverse this ground for rejection because the combination of cited references does not teach or suggest the claimed invention.

The applicants respectfully note that Ma *et al.* merely teaches compositions useful against mites, especially those known to be pests to agricultural crops (see, for example, page 4 of the translation). As the skilled artisan readily understands, mites and termites are entirely different insects. For example, termites fall under the class *Insecta* whereas mites fall under the *Arachnida* class. Thus, while Ma *et al.*'s combination of tebufenozide and diflubenzaron may be effective against mites, there is no teaching or suggestion by Ma *et al.* that such a combination would be equally effective against termites. Barring such teaching or suggestion, the skilled artisan would have had no reason to refer to Ma *et al.* to identify termite-controlling compositions, let alone the combination of the molt-accelerating ecdysteroid analog methoxyfenozide with the chitin synthesis inhibitor noviflumuron.

Su *et al.* '95 fails to correct the defects of Ma *et al.* Su *et al.* '95 merely discloses treating cellulose baits with hexaflumuron in housings. Su *et al.* '95's teachings do not amount to the use of a molt-accelerating ecdysteroid and chitin synthesis inhibitor, let alone the combination of methoxyfenozide and noviflumuron as recited in the current claims. Therefore, *even if* one were to combine Ma *et al.* with the baits of Su *et al.*, Su *et al.* '95 does not cure the afore-mentioned defects. Since the prior art fails to teach or suggest several of the claim limitations, a valid *prima facie* case

of obviousness has not been established. Further, one of ordinary skill in the art would have had no motivation to modify the cited references without the guidance of the applicants' disclosure. Accordingly, the applicants respectfully request reconsideration and withdrawal of the rejection under §103(a) based on Ma *et al.* and Su *et al.* '95.

Claims 1 and 10-12 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Ma *et al.* in view of Su *et al.* (WO 03/082002). The applicants respectfully traverse this ground for rejection because the combination of cited references does not teach or suggest the claimed invention.

The arguments presented above with respect to the rejection of claims 11, 10 and 11 are hereby incorporated in their entirety. Reiterating briefly, Ma *et al.* does not teach or suggest the combination of methoxyfenozide and noviflumuron. Su *et al.* teaches hermetically sealed wood bait with hexaflumuron. As with Su *et al.* '95 above, Su *et al.* fails to teach or suggest compositions in which methoxyfenozide and noviflumuron are combined. Therefore, Su *et al.* does not cure the deficiencies of Ma *et al.*

Since the prior art fails to teach or suggest several of the claim limitations, a valid *prima facie* case of obviousness has not been established. Accordingly, the applicants respectfully request reconsideration and withdrawal of this rejection based on Ma *et al.* and Su *et al.*

In view of the foregoing remarks and amendments to the claims, the applicants believe that the currently pending claims are in condition for allowance, and such action is respectfully requested.

The Commissioner is hereby authorized to charge any fees under 37 CFR §§1.16 or 1.17 as required by this paper to Deposit Account No. 19-0065.

The applicants invite the Examiner to call the undersigned if clarification is needed on any of this response, or if the Examiner believes a telephonic interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,



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